



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/527,409

12/27/2005

Jan Gerritse

2004-1039

4842

466 7590 04/04/2008

YOUNG & THOMPSON  
209 Madison Street  
Suite 500  
ALEXANDRIA, VA 22314

EXAMINER

WARE, DEBORAH K

ART UNIT

PAPER NUMBER

1651

MAIL DATE

DELIVERY MODE

04/04/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/527,409	<b>Applicant(s)</b> GERRITSE ET AL.	
	<b>Examiner</b> DEBBIE K. WARE	<b>Art Unit</b> 1651	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11 March 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>3/11/05</u> .   | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

Claims 1-10 are presented examination on the merits.

#### ***Priority***

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file. Also this application is a 371 of PCT/NL03/00632 filed September 12, 2003, of which the instantly filed specification should indicate at page 1, line 1, thus, Applicants are requested to update the parent data at page 1, line 1, of the instant specification. However, Applicants have been given priority to their foreign application of the Netherlands: 1021458 filed September 13, 2002.

#### ***Preliminary Amendment***

The Preliminary Amendment filed March 11, 2005, has been received and entered.

#### ***Information Disclosure Statement***

The information disclosure statement (IDS) submitted on March 11, 2005, was received. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

#### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1-10 are rendered vague and indefinite for failing to recite positive steps for anaerobic biological degradation of the soil-contaminating compounds recited in the claims, wherein there is not recitation of a step that is carried out with respect to obtaining and/or achieving degradation of the pollutants.

Furthermore, the terminology “if desired as salt” recited at line 4, of claim 1, renders the claims indefinite because the term “if desired” is subjective in its meaning and it is, therefore, unclear when a salt is to be present for carrying out the claimed method. Thus, the terminology is suggested to be deleted.

Also in claims 2-4, the phrase “in particular” as recited in claim 2, renders the claims indefinite and unclear as to which electron acceptor is being selected, especially since many of the components from the selectable laundry list are not required to be nitrogen per se. For example, sulfate, chlorobenzoic acid, etc.? Therefore, the metes and bounds of the claims can not be determined.

Further, claim 6 is grammatically unclear and lacks antecedent basis for the phrase at the end of the claim “which hydrocarbons may or may not be halogenated” because it is uncertain which hydrocarbons are intended, all of them or only a select few. Thus, it is suggested to insert --of which all of said hydrocarbons may or may not be halogenated-- or to state which ones are and which ones are not. The metes and bounds of the claims can not be determined for this reason as well.

Furthermore, the term “preferably” recited at line 3, of claim 7 renders the claim indefinite because it is uncertain when the monochlorobenzene is preferred, per se.

Also in claim 9 the use of the language “(expressed as sodium nitrate)” is not suggested because its use in the parentheses does not clarify whether sodium nitrate is intended or not. The metes and bounds of this claim can not be determined.

Claim 10 provides for the use of a mixture, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

#### ***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 10 is also rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

Art Unit: 1651

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1-3 and 9-10 are rejected under 35 U.S.C. 102(a) as being anticipated by Hince (US 6432693), cited on enclosed PTO-1449 Form.

Claims are drawn to a method for the anaerobic degradation of hydrocarbons present at a contaminated site (i.e. soil), wherein a combination of one or more humic acids and at least one electron (i.e. nitrate) is added to anaerobic bacterial populations.

Hince teaches the presence and degradation of trichloroethylene (TCE) among other hydrocarbons, note column 1, last 20 lines. Nitrate is disclosed to be an electron acceptor at column 15, lines 40-45 and a combination of humic acid and nitrogen acceptor, including nitrate is disclosed at column 16, lines 53 and 55-56. The percentage amounts are disclosed to within the 1 to 20 weight percent at column 6, lines 1-15 and 35-67 and 61 and column 9, lines 65-67 and column 5, all lines. Also note column 10, all lines. The mixture of humic acid and nitrate are clearly described by the cited reference and anaerobic biological degradation of aromatic and aliphatic hydrocarbons are disclosed as well.

The claims are identical to the cited teachings are, therefore, considered to be anticipated by the cited reference.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 4-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hince, noted above.

Claims are further drawn to the method as discussed above wherein the aromatic hydrocarbons comprise benzene. Also the humic acids are purified. Further, the soil is contaminated with BTEX, PAHs, and oil, etc. The acceptor can be TCE.

Hince discloses phenyl containing aromatic hydrocarbons, note column 1, all lines, and line 31. Hince also discloses that soil is a location that can be treated by the disclosed method, see column 1, last 20 lines. The contaminants are varied and include PAHs and oil, etc. Note column 1, lines 20-35 and other citations noted above. TCE is disclosed as are humic acids and nitrate as discussed above.

The claims differ from Hince in that TCE as an electron acceptor, purified humic acids, BTEX, are not specifically disclosed.

It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to apply the teachings of Hince to degrade BTEX using

Art Unit: 1651

TCE as an electron acceptor and purified humic acids because TCE would have been expected to function as an electron acceptor since it is disclosed to be present in the contaminated soil.

Further it is disclosed that a broad range of recalcitrant and/or hydrophobic organic contaminants such as PCBs, biphenyl, etc. are degraded in the presence of humic acids and nitrate. Thus, to purify the humic acids is clearly an obvious modification of the cited prior art.

One of ordinary skill in the art would have expected BTEX to be degradable by the Hince method and composition because it is disclosed that a broad range of recalcitrant and/or hydrophobic organic contaminants such as PCBs, biphenyl, etc. are degraded in the presence of humic acids and nitrate.

Hince would have clearly motivated one of skill in the art to use an electron acceptor as nitrate, or TCE since it is present in the soil as disclosed by Hince, and humic acids in a purified form. Thus, in the absence of persuasive evidence to the contrary the claims are deemed prima facie obvious over the cited prior art.

All claims fail to be patentably distinguishable over the state of the art discussed above and cited on the enclosed PTO-892 and/or PTO-1449. Therefore, the claims are properly rejected.

The remaining references listed on the enclosed PTO-892 and/or PTO-1449 are cited to further show the state of the art.

No claims are allowed.



Any inquiry concerning this communication or earlier communications from the examiner should be directed to DEBBIE K. WARE whose telephone number is (571)272-0924. The examiner can normally be reached on 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mike Wityshyn can be reached on 571-272-0926. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Deborah K. Ware/  
Deborah K. Ware  
Examiner  
Art Unit 1651